Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] 1. The key problems our system would solve is large enough extension tubing and suction catheters to allow excellent suctioning of larger and smaller food particles which were aspirated in the trachea or vomited into the mouth. Standard sump tubing and standard catheters, frequently get clogged because they are too narrow. The reservoir is also a key portion which allows continuous suctioning without impendence by large debris. Our system can also be used to clear mucous plugging of the airway in patients with asthma and chronic obstructive pulmonary disease which frequently can lead to airway obstruction and rapid death in Emergency Department and ICU settings.

[c2] 2. Existing suction catheters preferentially suction the right main stem bronchus and not the left stem bronchus. This is caused by anatomic bias of the tracheal tree at this region to allow material down the wider tube diameter and steeper slope created by the right main stem bronchus. Our product can be stationed proximal to the carina to allow adequate suc-

tioning of both bronchi.

[c3] 3. Our catheters provide much better distal seal in the trachea, to allow for proper suctioning of large and small aspirated particles, than current commercially available catheters.

[c4] 4. The catheters could even fit onto standard sump tubing with a Christmas tree like adapter, and be pulled out frequently and used as a standard suction. The catheter and extension tubing also can be hooked directly to standard suction canisters and wall suction via a double male adapter.

[c5] 5. This system could be performed on an emergent basis in the Emergency Department, ICU or even ambulance before it is possible to do a rigid or flexible bronchoscopy. The bronchoscopy equipment can take greater than 20-30 minutes to set up and a general or thoracic surgeon has to come to the hospital. Frequently, the patient is dead by then. A general surgeon even came to the Emergency Department and unsuccessfully tried flexible bronchoscopy on the patient above. Again the diameter of the tube he used to suction was too small and there was no good air seal.